BST reserves the right to disconnect a service or equipment connected to an unbundled local loop that either: (a) fails to meet these requirements, or (b) is shown to be causing harm to other services or systems.

4. Basic Unbundled Loop

4.1 General

This loop provides a voice grade transmission channel suitable for loop-start signaling and the transport of analog voice grade signals. This loop is typically used to provide switched access telephone service.

This loop is provides loop-start signaling, arranged for battery-feed by the CLEC and loop closure by the end-user. This loop is only available via a 2-wire interface.

4.2 Signaling Requirements

In practically all cases employing metallic facilities, the loop resistance (the sum of the resistance of both tip and ring) is less than 1500 Ω..

In those cases where loop resistance exceeds 1500 Ω , it will never exceed 2800 Ω. In these cases, BST cannot meet the prescribed signaling requirements at the End User Interface unless the CLEC provides sufficient voltage at the office end of the circuit. The open circuit tip-to-ring dc voltage provided by the CLEC equipment shall be less than 80 Vdc.

Except for this potentially greater loop resistance, the requirements in 6.2 apply to the Basic Unbundled Loop.

4.3 Transmission Requirements

In those rare cases where the loop resistance exceeds 1500 Ω , the insertion loss at 1 kHz, measured with a 900 Ω termination at the MDF and a 600 Ω termination at the End User Interface will never exceed 15 dB. Except for this potentially greater loop loss, the transmission requirements of Section 7 apply to the Basic Unbundled Loop.

4.4 Signal Power Requirements

The signal power requirements for the Analog Unbundled Loop, with the loop-start option, apply to the Basic Unbundled Loop.

4.5 Optional Data Over Voice

If facilities permit, Data Over Voice (DOV) may be used on the Basic Unbundled Loop. This option is not available when DLC is employed. Due to the stringent transmission requirements, it is not available on many metallic loops.

If DOV is employed, crosstalk into other cable facilities is a concern. Accordingly, the CLEC is responsible for limiting the Power Spectral Density (PSD) of the signal, transmitted at both the End User interface and at the MDF interface. The PSD shall be limited to that specified in Clause 6.13 of ANSI T1.413-1995.

If Asymmetric Digital Subscriber Line (ADSL) Technology (as described in the above-referenced document) is employed, installations shall meet the following requirements in order to minimize interference to other systems:

- D The `downstream' data path, as defined in the above standard, shall be in the MDF-to-NI direction.
- D The `upstream' data path shall be in the NI-to-MDF direction.

The loop facility shall meet the transmission requirements of Section 8.4.3.

5. Unbundled Analog Loop with Specified Signaling

5.1 Supported Signaling

The following signaling types of signaling are available:

- D Loop-Start
- D Ground-Start
- D Reverse-Battery

These types of signaling are described briefly below. Bellcore SR-TSV-002275 Bellcore SR-TSV-002275 contains a more thorough discussion. Section 6 contains detailed requirements for these types of signaling at both interfaces of an Unbundled Analog Loop with Specified Signaling.

5.1.1 Two-wire and Four-wire Signaling

In the discussion below, a two-wire circuit is assumed. Four-wire circuits employ similar signaling, except that the dc signaling — instead of being applied directly to the tip and ring conductors — is applied to a center-taps of coupling transformer, so that the dc signals appear in the common-mode across both conductors of each of the four-wire pairs. A circuit suitable for the conversion of four-wire to two-wire is shown below.

5.1.2

The two ends of a loop-start circuit are denoted the office end and the station end. The office end provides a voltage across Tip and Ring. In the idle state, the station presents a high resistance across Tip and Ring. To request service, the station presents a low resistance between the conductors. The resultant current flow is detected by the office end. To alert an idle station of an incoming call, the office end applies ringing voltage, relative to ground, to the Ring.

Loop-start circuits arranged with the office end at the MDF interface are commonly used to provide exchange access service. Section 6.2 contains requirements signaling requirements for both the MDF and End User interfaces.

5.1.3 Ground Start

Ground-start signaling is similar to loop-start, except that in the idle state, the office doesn't apply a voltage across Tip and Ring. Instead it applies a voltage, relative to ground, on only the Ring. This results in the following differences, relative to loop-start service:

- D In order to request service, the station provides a low resistance from Tip to ground. Sensing current flow in the Ring, the office provides a (differential) voltage across both Tip and Ring. Upon the application of the differential

voltage, the station places a low resistance across the Tip and Ring, and removes the shunt to ground.

D Upon alerting the station, the office applies differential voltage, even between bursts of ringing. If suitably arranged, the station can sense this differential voltage and detect the alerting signal, even before a ringing burst is sent by the office.

Ground-start circuits arranged with the office end at the MDF interface are often used to provide two-way trunks to a PBX. Section 6.4 contains signaling requirements for both the MDF and End User Interface in such an arrangement.

5.1.4 Reverse-Battery

Reverse-Battery signaling is typically used on trunks, rather than lines. There is no `office end' or `station end' convention. Ringing is not employed. Reverse-battery signaling accommodates only one-way trunks[1]. For this reason, the ends of the circuit are usually denoted the originating and terminating end.

The terminating end of the circuit provides a voltage across Tip and Ring. In the idle state, the originating end presents a high resistance across Tip and Ring. To request service, the originating end places a low resistance across the conductors. The terminating end senses the resultant loop current. To signal that toward the originating that, for instance, it is ready to accept address digits, the terminating end reverses the polarity across Tip and Ring.

The originating end can return to idle by removing the low resistance across Tip and Ring. If properly equipped, the originating end can sense a reversal of polarity as an indication of return to idle by the terminating end.

Reverse-Battery circuits, with the originating end at the MDF, are often used to provide Direct Inward Dialing (DID) trunks to PBX's located behind the End User Interface. Section 6.5 contains signaling requirements for such an arrangement.

[1] The term "one-way" indicates that a trunk can only be originated from one end, the voice-frequency capability is bi-directional.

5.2 Supported Signaling and Interface Combinations

The following signaling and interface combinations are supported.

Number of Wires	Signaling Options
2	Loop-start signaling - office end at MDF
2	Ground-start signaling - office end at MDF
2	Reverse-Battery - originating end at MDF
4	Loop-start signaling - office end at MDF
4	Ground-start signaling - office end at MDF

6. Signaling Requirements for Analog Loops

6.1 General

When metallic facilities are employed, signaling and supervision is dependent, of course, on the source voltage (provided by either the CLEC equipment or BST equipment to which the loop is connected), and the total circuit resistance. In practically all cases, the loop resistance (the sum of the resistance of both tip and ring) is less than 1500 Ω^2. The dc resistance between the tip conductor and ground and the ring conductor and ground shall each be greater than 100 K ohms.

Except for instances within ringing burst (as described below) the CLEC shall not apply voltages to either conductor that are positive with respect to ground. Current supplied by CLEC equipment shall be less than 150 mA. Voltages from either conductor to ground shall be more positive than -80 Vdc.

When DLC is employed, both the DLC system and the CLEC must employ compatible signaling. The following requirements are intended to ensure such compatibility, both when the loop is provided via DLC and via metallic facilities.

The following requirements apply to both two-wire and four-wire interfaces. For purposes of clarity, the requirements are based on two-wire interfaces. When four-wire interfaces are employed, references and/or measurements to Tip apply to the common mode (simplex) path via both Tip and Ring. Similarly, references and/or measurements to Ring apply to the common mode (simplex) path via Tip 1 and Ring 1.

6.2 Loop-Start - Office End at MDF

6.2.1 General

An Analog Unbundled Loop with Specified Signaling provided via DLC may not support distinctive ringing or forward disconnect.

[2] In those cases where loop resistance exceeds 1500 Ω, signaling and/or transmission equipment will be provided by BST to meet the specifications in this document.

6.2.2 MDF Interface

6.2.3 Idle State

In the idle state, the CLEC equipment shall provide an open circuit Tip-to-Ring voltage between 42.5 and 80 Vdc. The Ring shall be negative, relative to the Tip. No positive voltage — relative to ground — shall be applied to either conductor.

In the idle state, the loop shall provide a dc resistance at the MDF meeting either of the following requirements:

- D A dc resistance between Tip and Ring w10,000 Ω (loop provided via DLC), or
- D A dc resistance between Tip and Ring wthe parallel combination of the following:
  - D the series combination of the on-hook dc resistance of connected equipment at the End User Interface and the dc resistance of the loop, and
  - D a leakage resistance of 100,000 Ω.

6.2.4 Alerting State

In the alerting state, the CLEC equipment shall alternately apply a ringing signal and the normal idle-state potential. The ringing signal shall be applied to the Ring conductor. The voltage on the Tip conductor, relative to Ground shall be between 0.0 and -5.0 Vdc. In any six-second period, there shall be at least three continuous seconds of the normal idle-state voltage. The ringing signal shall consist of an ac signal superimposed on a dc signal.

The requirements of the ac component arc as follows:

- D The frequency shall be 20" 3 Hz.
- D The magnitude shall be between 84 and 104 V_{rms}.
- D The waveform shall have a peak-to-rms ratio between 1.35 and 1.45.
- D The ac current into a line shall be limited to less than 220 mA.

The potential of the dc component shall be between -36 and 56.6 Vdc, relative to ground.

The ringing signal (ac component + dc component) shall be applied to the Ring, with a source impedance v 500 Ω.. Ground shall be applied to the Tip, with a source impedance of v 500 Ω .

The ringing signal shall be removed within 200 milliseconds after the line has gone off-hook, as defined below. The ringing signal shall not be `tripped' when ringing into the parallel combination of the following:

- D 10,000 Ω of dc resistance
- D a 2 μF capacitor
- D the series combination of 1386 Ω and 20 μF (simulating 5 bridged ringers)

6.2.5 **Off-Hook State**

The CLEC equipment shall recognize a resistance of 1900 Ω applied between Tip and Ring at the MDF as off-hook. For interoperability with loops with resistance greater than 1500 Ω, the CLEC equipment shall recognize a resistance of 3200 Ω applied between Tip and Ring at the MDF as off-hook. In either case, the CLEC must provide at least 20 mA through the limiting resistance.

The CLEC shall also meet the following requirements:

- D The power delivered to any load via Tip and/or Ring shall not exceed 2.5 W.
- D The current provided, via Tip and/or Ring, shall not exceed 150 mA.

In the off-hook state, the loop shall provide a dc resistance at the MDF meeting one of the following requirements:

- D A dc resistance between Tip and Ring v1150 Ω (loop provided via DLC), or
- D A dc resistance between Tip and Ring vthe series combination of the on-hook dc resistance of connected equipment at the End User Interface and the dc resistance of the loop.

6.2.6 **End-User Interface**

Signaling provided by connecting equipment at the End User Interface shall meet the Customer Installation requirements in ANSI T1.401-1993. The loop shall meet the network requirements in ANSI T1.401-1993.

6.3 Ground-Start - Office End at MDF

6.3.1 **General**

This arrangement is commonly used to support two-way trunks providing switched access to PBX's.

An Analog Unbundled Loop with Specified Signaling provided via DLC may not support distinctive ringing or forward disconnect.

6.3.2 **MDF Interface**

6.3.3 **Idle State**

In the idle state, the CLEC equipment shall provide an open circuit Ring-to-ground voltage between 16 and 55 Vdc. The Ring shall be negative, relative to ground. The dc resistance from Tip to ground shall be w50,000 Ω..

In the idle state, the loop shall provide a dc resistance at the MDF meeting one of the following requirements:

- D A dc resistance from Ring to Ground w10,000 Ω (loop provided via DLC), or
- D A dc resistance from Ring to Ground w the parallel combination of the following:
  - D the series combination of the dc resistance from Ring to Ground at the End User Interface and ½ of the dc resistance of the loop, and
  - D a leakage resistance of 100,000 Ω.

6.3.4 **Alerting State**

The CLEC shall meet the requirements of 6.2.4.

6.3.5 **Service Request State**

To initiate a call, the end-user places a low resistance from Ring to Ground. When a resistance of v 580 Ω is placed from Ring to Ground at the End User Interface, the loop shall provide a dc resistance at the MDF meeting one of the following requirements:

- D A dc resistance from Ring to Ground v900 Ω (loop provided via DLC), or
- D A dc resistance from Ring to Ground v the series combination of the dc resistance from Ring to Ground at the End User Interface and ½ of the dc resistance of the loop.

6.3.6 **Off-Hook State**

Upon application of the Ring ground in the Service-Request State, the CLEC equipment shall provide a current-feed interface meeting the requirements of 6.2.5.

The loop shall present a dc resistance across Tip and Ring meeting the requirements of 6.2.5.

6.3.7 **End-User Interface**

Signaling provided by connecting equipment at the End User Interface shall meet the Customer Installation requirements in ANSI T1.401-1993. The loop shall meet the network requirements in ANSI T1.401-1993.

6.4 Reverse-Battery - Originating End at the MDF

6.4.1 MDF Interface

6.4.2 Idle State

In the idle state, the CLEC equipment shall maintain a dc resistance from Tip to Ring, Tip to Ground, and Ring to Ground w 22,500 Ω .

If the loop is provided via Digital Loop Carrier, the loop shall provide at least 36 Vdc between Tip and Ring, with the Tip positive with respect to the Ring, in the idle state.

6.4.3 Seizure

The Originating end signals an off-hook (seizure) by placing a low resistance between Tip and Ring. In this state, the CLEC equipment shall provide a dc resistance between Tip and Ring v670 Ω .

The current provided by the loop (with CLEC equipment attached that meets the above requirement) shall meet the following requirement:

- D If the absolute value of the Tip to Ring voltage is w33.8 Vdc, the current shall be at least that produced by a 36 Vdc source in series with 135 Ω .
- D If the absolute value of the Tip to Ring voltage w29.5 Vdc, but < 33.8 Vdc, the current shall be at least that produced by a 41.7 dc source in series with 489 Ω .
- D If the absolute value of the Tip to Ring voltage < 29.5 Vdc, the current may be as low as 0 mA.

6.4.4 Reverse-Battery State

The Terminating end signals an off-hook by reversing the polarity of the voltage applied across Tip and Ring. In this state, the CLEC equipment shall maintain a dc resistance of v670 Ω across Tip and Ring. In this state, the loop shall meet the requirements of 6.9.3.

6.4.5 End User Interface

Signaling provided by connecting equipment at the End User Interface shall meet the Customer Installation requirements in ANSI T1.405-1996. The loop shall meet the network requirements in ANSI T1.405-1996.

7. Voice-Frequency Transmission Requirements

7.1 General

When Loop-Start or Ground-Start signaling is employed, the following specifications are supported only during the off-hook state. These specifications apply to other Analog Unbundled Loops with Specified Signaling regardless of the signaling state. Specifically, the transmission of Caller-ID, or similar signals, is not supported any

Unbundled Local Loop. ANSI/IEEE 743-1995 contains requirements for instrumentation necessary to measure compliance with the following requirements.

7.2 Insertion Loss

The following specifications apply when measured with a 900 Ω AC impedance at the MDF and a 600 Ω AC impedance at the End User Interface:

- D The insertion loss at 1 kHz, shall be 10 dB or less.
- D The insertion loss, at 2.8 kHz, shall be no greater than 9 dB above that at 1 kHz.

BST does not support transmission on any Analog Unbundled Loop with Specified Signaling at frequencies below 300 Hz, or above 3.0 kHz.

7.3 Noise

The idle-channel noise shall be less than 30 dBrnC.

The Signal to C-Notched Noise Ratio shall be at least 32 dB, when measured with a -13 dBm holding tone.

7.4 Noise-to-Ground

The Noise-to-Ground parameter has two specifications. When measured with a C-message weighting filter, it should be less than 90 dBrnC. When measured with a high-impedance voltmeter, it shall not exceed 50 V (126 dBrn).

NOTE: **While dBrn is in units of power, both of these requirements involve voltage measurement, with results displayed in units of power, assuming that the voltage is across a 600 Ω resistor.**

The longitudinal balance (longitudinal to metallic conversion loss) of any metallic component of the loop shall be at least 50 dB for frequencies up to 1 kHz. The longitudinal balance of interconnected CLEC equipment shall exceed 60 dB at any frequency up to 1 kHz,. This parameter may be measured using ANSI/IEEE 455-1985.

7.5 Voiceband Data

BST does not guarantee that an Analog Unbundled Loop with Specified Signaling will be suitable for analog data or Facsimile transmission. If a customer is able to send and receive data, BST does not guarantee a data rate.

7.6 Signal Power

The power of the voiceband signal, at either the End User Interface or the MDF, shall not exceed -9 dBm, when averaged over any 3 second period.

The out-of-band signal power shall meet the out-of-band signal power limits in Section 68.308 of FCC Part 68 requirements. In the event that connected equipment is not registered under Part 68, this requirement shall still apply.

8. Digital Unbundled Loops

8.1 General

A Digital Unbundled Loop provides a channel that can support one of a described set of digital transmission schemes. These schemes include the following:

- D Digital Baseband at 64 kbps
- D Basic Rate Access ISDN
- D High-Bit-Rate Digital Subscriber Line
- D DS1
- D DS3

Requirements for the first three are described below. Requirements for Digital Unbundled Loops at the DS1 and DS3 rates are identical to those associated with tariffed BST service offerings.

8.2 Digital Baseband at 64 kbps

8.2.1 Interfaces

The interface at the MDF is a 4-wire interface, described as a DS-0A interface in Bellcore TA-TSY-000077. The End User Interface is a 4-wire interface described in ANSI T1.410-1992. Signals applied at either interface shall meet the requirements of these documents.

8.2.2 Transport

The loop facility may be provided via metallic facilities, DLC, or both. The insertion loss of the metallic facility, measured at 28 kHz between 135 Ω terminations, shall be less than 40 dB. DC signaling, in the simplex path, is only supported to the extent necessary to provide maintenance functions as described in Bellcore TA-TSY-000077 and ANSI T1.410-1992.

8.3 Basic Rate Access ISDN

8.3.1 Interfaces

The interface at both the ALEC (collocated or elsewhere) and the End User Interface is a 2-wire interface as defined in ANSI T1.601-1992. The supported arrangement involves an NT at the end-user and an LT provided by the ALEC. No other arrangements are supported. Signals applied at either interface shall meet the requirements of this document.

8.3.2 Transport

The loop facility may be provided via metallic facilities, DLC, or both. The insertion loss of the metallic facility, measured at 40 kHz, shall be less than 42 dB. No dc

specifications are supported. Sealing current — even if not provided by the ALEC equipment (LT) — may be provided, but is not guaranteed.

8.4 HDSL-capable

8.4.1 Availability

This channel is not available when DLC is employed. This channel is not available if the loop facilities do not meet Carrier Serving Area (CSA) guidelines as described in Committee T1 Technical Report No. 28.

8.4.2 Interfaces

At the CLEC's request, either a 2-wire or 4-wire channel will be provided. The signal applied at either interface shall meet the following specifications:

- D The average signal power shall not exceed +15.0 dBm across 100 Ω .
- D The Power Spectral Density shall not exceed -35 dBm/Hz at any frequency. This requirement shall be met when measured with a 100 Ω termination.

8.4.3 Transport

The loop facility consists of only metallic facilities meeting CSA design guidelines as documented in Committee T1 Technical Report No. 28. The dc resistance of a single wire pair should not exceed 850 Ω. The insertion loss of a pair, measured between 135 Ω terminations, shall not exceed 35 dB.

9. Electrical Disturbances

Unbundled Local Loops may be exposed to electrical surges from lightning and commercial power system disturbances. Despite protective devices on the MDF, some of these disturbances are likely to reach CLEC equipment. CLEC equipment shall be designed to withstand certain surges without being damaged, and shall fail in a safe manner under infrequent high stress.

The prevalent voltage-limiting device available for CO use is the 3-mil carbon block. The performance of these devices can best be characterized by a normal distribution function. The upper σ3 firing voltage is 1000 volts peak under surge conditions. The protector may also limit — to about 350 mA over extended periods — the current that is permitted to flow to equipment. In addition, a protective fuse cable located outside the CO incorporating 24 or 26 AWG conductors to coordinate with the protector, serves to limit current to safe levels in the event of prolonged operation of the protector during power fault conditions.

10. ANNEX A

Characteristics of Tie Cable(s) and/or Wiring Component

The cabling and/or wire between the MDF interface and the collocated CLEC equipment (if any) is not a compcnent of the Unbundled Local Loop. It is an unbundled element. The following specifications apply:

- D The total length should be less than 1500 feet.
- D The dc resistance should be less than 80 ohms.
- D The insertion loss, measured between 900 Ω terminations at 1 kHz, should be 0.5 dB or less.
- D The noise shall be 15 dBrnC or less.

TAB 8

BellSouth Interconnection Services

Technical Service Description

Network Interface Device (NID) Access

NID

Version 6

Jerry Latham
Product Manager
205-977-1070

Thad June
Project Manager
404-529-0583

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I. Market Service Description

A. Basic Service Features

NID Access is designed to allow an OLEC the opportunity to connect its loop to the inside wiring portion of BST's Network Interface Device (NID). It is expected that the OLEC will provision a loop and a NID to the customer's location. In these circumstances, the OLEC may perform a physical cross-connect of the inside wire to its loop. This will then provide a communication pathway from the OLEC, through BST's NID, to the end users inside wire.

In those cases where BST may not have a NID, but instead terminates its loops directly to the inside wire of the end user, or where the existing NID is not suitable for OLEC connection, BST will:

1. Install a NID (at the end of the BST loop) so the OLEC may cross-connect its loop (via its NID) to the BST NIDand,

2. At the OLEC's request, install a second NID for the OLEC and will provide the cross-connect from the BST NID to the OLEC NID (NID/CC).

In these cases, BST will charge the OLEC a non-recurring charge for the installation of the NID, and, if the OLEC orders a NID and cross-connect from BST, BST will charge the OLEC a non-recurring charge for those elements. The OLEC will be required to provide maintenance and repair on the portion of the NID utilized by the OLEC. If these components require any joint maintenance and/or repair, the OLEC will issue an order with the LCSC to schedule a mutually agreeable time to complete the work. If this work is done to rectify a faulty NID or some other work done at BST's request, BST would not charge the OLEC. If, however, the work is required by the OLEC or due to some activity initiated by the OLEC, BST would bill the OLEC on a time and material basis for the required work-time.

BST expects the OLEC to label their loops that terminate in a BST NID. The label should provide the OLEC's name and contact information (e.g., toll-free number, etc.), as well as a circuit identification number.

In those states where the PSC has allowed the OLEC to remove the BST loop from a BST NID where no spare terminal capacity exists (GA, TN), it will be the OLEC's

responsibility to ensure that there is no safety hazard, etc., and must hold BST harmless for any liability associated with the OLEC's removal of the BST loop from the BST NID. BST expects that the OLEC will use the following procedures to re-ground a disconnected BST loop:

If the BellSouth pair is originally terminated on a protector (which provides lightning and high voltage protection) within the NID, the OLEC will re-terminate the BellSouth pair on another protector of equal or better quality which has been grounded as per National Electric Code standards. If the pair is not currently terminated on a protector (that is the protection is provided at another location within or on the building) the pairs should be terminated on a new cross connection device (i.e. 66 block) such that the pairs are not subject to electrical faults (shorts, grounds, crosses, etc.) at the point of connection. If the OLEC does not wish to accept this responsibility, then options 1 and 2 listed above are applicable.

Additionally, (at the OLEC's request) BST will provide maintenance and repair services on its NID and, if applicable, the BST installed OLEC NID and cross-connect (NID-TM).

B. Basic Service Capabilities

C. Forecast

1) Regional (interstate and intrastate)

TBD

2) State (interstate and intrastate)
3) Geo/wire center

D. Pricing Structure and Description

BST does not plan to charge the OLEC any recurring or non-recurring charges for the OLEC's use of this NID. However, if the NID requires any maintenance or repair, BST will charge the OLEC on a time and material basis for the required work-time. Additionally, in those states where BST is required to provide NID's that are unbundled (and priced separately from the BST unbundled loop), then BST will develop recurring and non-recurring rates associated with the NID.

1) NRC (non-recurring charge)

It is expected that BST will need four NID offerings:

Network Interface Device (NID)
Network Interface Device Cross-Connect (NID-CC)
Network Interface Device Time and Material (NID-TM)
Network Interface Device Manual Order (NID-MO)

2) **Recurring Charge**

None proposed (except as described above)

3) **Credit Terms (for failure to meet commitments)**

E. Deployment Schedule

BST will be required to offer this capability in all end offices. However, it is expected that OLECs will target their service offerings in the Tier 1 and Tier 2 metro areas.

F. Distribution Channels

Use Interconnection Services Sales channels -- 12 headcount shared among all UNE's.
Use ASR/LSR Process through LCSC (Local Customer Service Center) -- see Kathy Massey standard process flows templates - ICSC.
Common EDI Interface (under development).

G. Product Codes, Sales Codes Requirements

Unique sales codes for LCSC
Establish new product codes for UNE's

H. Product Tracking Needs

Unit Counter
- Per MOU for usage-based
- Per unit for non-usage based

Revenue and Expenses - ABIS
Accounted for by: Region/State/GEO/Wire Center/Customer (by ACNA)

I. Tariff, Contract, or Other Agreement

BST will negotiate in good faith with all requesting OLECs to determine the terms, conditions and pricing associated with this offering. It is expected that BST will offer this service via a contract arrangement until the market and regulatory dynamics are appropriate for a tariff filing.

Need one headcount for contract administration spread over all UNE's.

J. Advertising and Promotion Plans and Requirements

Development of common "fact sheet" type brochure $50k per year through 1999 spread to all UNEs.
InterNet WEB page -- $100k per year through 1999 spread to all UNEs.

K. Customer Training Considerations

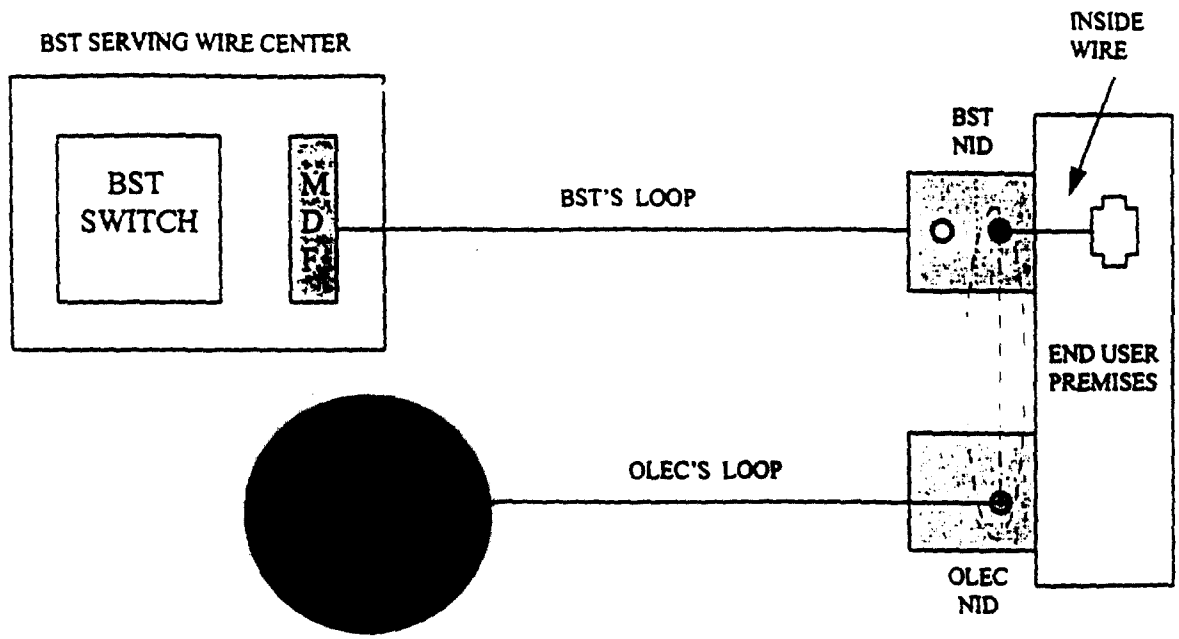
Customer Training: one person-year plus $20k materials per year through 1999
- Document-based training (not face to face)
- How to order
- Tech requirements/interface specifications
- Maintenance/repair
- General product overview - all UNE's
- Assume: man-hour loading - travel, PC equipped (misc.: office space, supplies)

L. Staff Support Requirements

II. Network Architecture

A. Physical Network Configuration

1) switching requirements
2) signaling
3) recording (AMA, etc.)
4) transport
5) Drawing of Network Elements



B. **OSS (operational support systems) Requirements**

C. **Software Requirements (AIN, queries, etc.)**

III. Performance Standards and Reliability

A. **General Description of Performance Standards and Reliability (parity, etc.)**

Need to develop BellSouth Technical Reference for UNEs. 100 person days +$7500 (all UNEs)

B. **Diversity Requirements**

No requirements for UNEs but some level of diversity will exist in BST network (embedded and forward looking)

C. **Performance Monitoring**

No specific requirement, however, network element will be monitored as part of BST network infrastructure.

D. Special Considerations (SIG, SAW, etc.)

- Assume no SIG applies for dedicated UNEs
- Assume no state-specific missed appointment credits (payments - currently FL. only)
- SAW does not apply
- Services outage credit may be the same as PL tariff
- Billing Guarantees do not apply - there will be CABS cost to exclude UNEs from current processes
- Blocking Performance reports - none

IV. OAM&P (ordering, administration, maintenance, and provisioning)

A. Intervals for Installation, Repair, etc.

Installation
- BST will install a NID and perform any cross-connect ordered by the OLEC within 5 -7 business days.
- Expedite charge for short intervals

Repair
- TBD

B Description of Centers Affected and Their Role(s)

ICSC (usage billing only)
LCSC - Local Customer Service Center
AFIG - Assignment Facility Inventory Group
OSPE - (loop only)
CPG
CCM - Capacity Mgmt.
NISC
C.O. Operations
Field Work Groups
RRC, BRC, ACAC etc.

C. Ordering Standards and Order Reception Standards

- LCSC will receive and process orders.
- OLEC will utilize mechanized entry system where available.

- Entry system will accept only error free orders into our ordering systems.
- **If a mechanized order entry system is available and the OLEC sends a manual order, BST will bill the OLEC a charge associated with the additional cost that BST would incur with the manual process. This charge (NID-MO) will be billed in addition to the normal NRC which assumes a mechanized process.**

D. **Repair Standards and Repair Order Reception Standards**
E. **Service Management**
F. **Billing and Special Arrangements**
   1) **CABS vs CRIS**

      The NID elements will be billed in CRIS

   2) **Release Requirements**
   3) **Special Considerations**
G. **Internal Training Requirements**

H. **Staff Support Requirements**
   1) **Initial roll-out**
   2) **On-going requirements**

GLOSSARY

TBD

TSD – NETWORK INTERFACE DEVICES (NID)

I. Market Service Description

A. Basic Service Features

NID Access is designed to allow an OLEC the opportunity to connect its loop to the inside wiring portion of BST's Network Interface Device (NID). It is expected that the OLEC will provision a loop and a NID to the customer's location. In these circumstances, the OLEC may perform a physical cross-connect of the inside wire to its loop. This will then provide a communication pathway from the OLEC, through BST's NID, to the end users inside wire.

In those cases where BST may not have a NID, but instead terminates its loops directly to the inside wire of the end user, or where the existing NID is not suitable for OLEC connection, BST will:

1. Install a NID (at the end of the BST loop) so the OLEC may cross-connect its loop (via its NID) to the BST NIDand,

2. At the OLEC's request, install a second NID for the OLEC and will provide the cross-connect from the BST NID to the OLEC NID (NID/CC).

In these cases, BST will charge the OLEC a non-recurring charge for the installation of the NID, and, if the OLEC orders a NID and cross-connect from BST, BST will charge the OLEC a non-recurring charge for those elements. The OLEC will be required to provide maintenance and repair on the portion of the NID utilized by the OLEC. If these components require any joint maintenance and/or repair, the OLEC will issue an order with the LCSC to schedule a mutually agreeable time to complete the work. If this work is done to rectify a faulty NID or some other work done at BST's request, BST would not charge the OLEC. If, however, the work is required by the OLEC or due to some activity initiated by the OLEC, BST would bill the OLEC on a time and material basis for the required work-time.

BST expects the OLEC to label their loops that terminate in a BST NID. The label should provide the OLEC's name and contact information (e.g., toll-free number, etc.), as well as a circuit identification number.

In those states where the PSC has allowed the OLEC to remove the BST loop from a BST NID where no spare terminal capacity exists (GA, TN), it will be the OLEC's responsibility to ensure that there is no safety hazard, etc., and must hold BST harmless for any liability associated with the OLEC's removal of the BST loop from the BST NID.
BST expects that the OLEC will use the following procedures to re-ground a disconnected BST loop:

If the BellSouth pair is originally terminated on a protector (which provides lightning and high voltage protection) within the NID, the OLEC will re-terminate the BellSouth pair on another protector of equal or better quality which has been grounded as per National Electric Code standards. If the pair is not currently terminated on a protector (that is the protection is provided at another location within or on the building) the pairs should be terminated on a new cross connection device (i.e. 66 block) such that the pairs are not subject to electrical faults (shorts, grounds, crosses, etc.) at the point of